FINDING OF NO SIGNIFICANT IMPACT
FOR
PANORAMIC MOUNTAIN RIVER HEIGHTS COUNTY WATER DISTRICT
WATER SYSTEM IMPROVEMENTS

TO: ALL INTERESTED PERSONS

Date:	January 18, 2008
Action:	Water System Improvements Including: New Water Supply Well and Appurtenances Water Distribution System Replacement Water Meters
Location of Project:	Panoramic Mountain River Heights County Water District Flathead County, Montana
DEQ Funding:	$ 98,000
Total Project Cost:	$ 389,500

An environmental review has been conducted by the Montana Department of Environmental Quality (DEQ) for proposed funding for improvements to the Panoramic Mountain River Heights County Water District's water system. The proposed project involves the construction of improvements as listed above. The purpose of the project is to make improvements to the drinking water system that are needed to protect public health.

The affected environment will primarily be the area within the boundaries of the Panoramic Mountain River Heights County Water District and the immediate vicinity. The human environment affected will include the public water system and the 23 residences located within the District. Based on the environmental assessment, the project is not expected to have any significant adverse impacts upon terrestrial and aquatic life or habitat including endangered species, water quality or quantity, air quality, geological features, cultural or historical features, or social quality.

This project will be funded with grants and a low interest loan through the Montana Drinking Water State Revolving Fund Program, administered by the Montana Department of Environmental Quality (DEQ) and the Montana Department of Natural Resources and Conservation (DNRC).

The DEQ utilized the following references in completing its environmental review of this project: a Uniform Environmental Checklist for Montana Public Facility Projects and a Preliminary Engineering Report dated April, 2006, both by Great West Engineering, consulting engineer for Panoramic Mountain River Heights County Water District; and an environmental checklist completed by the DEQ. In addition to these references, letters were sent to: the Montana Department of Environmental Quality (DEQ); the Montana Department of Fish, Wildlife & Parks (DFWP); the Montana Department of Natural Resources and Conservation (DNRC); the United States Fish and Wildlife Service (USFWS); the United States Army Corps of Engineers (USACE); the Montana State Historic Preservation Office (SHPO); the Montana Natural Heritage Program (MNHP); and the Natural Resource Conservation Service (NRCS). Responses have been received from DEQ, DFWP, SHPO, MNHP, and NRCS. These references are available for review upon request by contacting:

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or

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Comments on this finding or on the EA may be submitted to DEQ at the above address. Comments must be postmarked no later than February 25, 2008. After evaluating substantive comments received, DEQ will revise the EA or determine if an EIS is necessary. Otherwise, this finding of no significant impact will stand if no substantive comments are received during the comment period, or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant.

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Todd Teegarden, P.E., Chief
Technical and Financial Assistance Bureau

PANORAMIC MOUNTAIN RIVER HEIGHTS COUNTY WATER DISTRICT
DRINKING WATER FACILITIES

ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant:	Panoramic Mountain River Heights County Water District
Address:	9 Panoramic Drive Kalispell, MT 59901
Project Number:	WRF 10-001

B. CONTACT PERSON

Name:	Karla A. Houtz, Board Director Panoramic Mountain River Heights County Water District
Address:	9 Panoramic Drive Kalispell, MT 59901
Telephone:	(406) 756-6432

C. ABSTRACT

Panoramic Mountain River Heights County Water District is located adjacent to Highway 35 approximately four miles east of Kalispell. The subdivision is located in Section 2, Township 29 North, Range 21 West. Formed in 1975, the public water system for the subdivision provides service to 23 residential customers and one commercial customer. One residential lot remains in the subdivision for development, and three others are utilized by single owners to provide open space and habitat for wildlife and livestock. The water system for the community consists of two wells, wellhead meters, and a pressurized distribution system consisting of small diameter polyvinylchloride (PVC) pipe rated to a maximum operating pressure of 60 pounds per square inch (psi). The District is planning improvements to its drinking water system to address the following deficiencies:

1. The water supply does not meet peak hourly demands;
2. The system does not provide for storage;
3. The system does not provide adequate pressures during periods of high demand;
4. The distribution system is not properly designed to prevent stagnation and possible backflows leading to contamination and the growth of biofilms;
5. Distribution system pipe diameters do not meet current minimums;
6. Distribution system pipe does not meet current operating pressure requirements; and
7. Water meters are not being utilized at service connections to promote water conservation and provide for a fair method of billing.

The recommended alternatives from the preliminary engineering report include the following improvements:

1. Increase the water supply by drilling a new [approximately] 200’ deep well including pump, controls, and piping to the existing control building;

2. Replace [approximately] 2,200' of undersized and leaking PVC distribution piping with 6" diameter PVC pipe. Distribution system improvements will be designed to alleviate the potential for stagnation, pressure instability, and backflow; and
3. Install water meters at all service connections.

The proposed water system improvements will ensure that drinking water meeting state and federal regulations is provided to all homes within the District.

The project will be funded by grants through the Montana Department of Natural Resources and Conservation Renewable Resource Grant and Loan Program, the Montana Department of Commerce Treasure State Endowment Program, local District funds, and a State Revolving Fund loan. Environmentally sensitive issues and features such as wetlands, floodplains, and threatened or endangered species are not expected to be adversely impacted as a consequence of the proposed project. No significant long-term environmental impacts were identified.

D. COMMENT PERIOD

Thirty (30) calendar days.

II. PURPOSE AND NEED FOR ACTION

A. DRINKING WATER SUPPLY, STORAGE, AND DISTRIBUTION SYSTEMS

Panoramic Mountain River Heights Subdivision consists of 23 homes and one commercial connection. Water service is provided by a public system consisting of two wells and an inadequate distribution system. There is no storage reservoir. The system was constructed in the early 1970's. Since that time, no major improvements have been made.

The two supply wells do not have adequate capacity to meet peak demands without storage, which does not exist. The distribution system is undersized, leaks, and is not looped to prevent stagnation, backflow, and pressure differentials.

Additionally, the system does not utilize water meters at service connections to promote water conservation and provide for a fair billing system based upon actual water use.

B. PROPOSED PROJECT

The proposed project includes the following improvements:

1. The replacement of 2,204 lineal feet of PVC water main with new 6" C900 PVC water main including new valves;
2. The installation of blowoff hydrants to facilitate flushing and stabilize pressures;
3. Service connections;
4. The drilling and development of a new water well including pump, controls, and transmission main to connect to the existing system; and
5. The installation of water meters at all service connections.

Proper water supply and distribution are important to the public health and safety of the residents of Panoramic Mountain River Heights County Water District. Without these,

water quality and public health and safety will be at risk.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. WATER SUPPLY ALTERNATIVES

Five alternatives addressing the District's water supply needs included:

1. Connect to the Evergreen Water and Sewer District's public water system;
2. Replace the pumps in the two (2) existing wells with higher capacity pumps;
3. Drill an additional well;
4. Develop a surface water source from the adjacent Flathead River; and
5. No action.

1. CONNECT TO THE EVERGREEN WATER AND SEWER DISTRICT'S PUBLIC WATER SYSTEM-This alternative would provide adequate supply to the community and would meet regulatory criteria. The District would have to pay the Evergreen Water and Sewer District's water rates and impact fees as required. It would also require the installation of a connecting main that would include a crossing of the Flathead River. Easement procurement and wetlands construction would also be factors. Due to these complicating factors and the costs involved, this alternative was eliminated from further consideration.

2. REPLACE THE PUMPS IN THE TWO (2) EXISTING WELLS WITH HIGHER CAPACITY PUMPS-This alternative would provide additional supply to the community by increasing the size of the pumps in each of the existing wells. According to well records and historic performance data, the wells will not support additional demand. For this reason, this alternative was eliminated from further consideration.

3. DRILL AN ADDITIONAL WELL-This alternative would provide additional supply to the community and would ensure compliance with regulatory peak demand requirements contained in Circular DEQ-1. A hydrogeologic evaluation has identified a location that will likely result in a well that will produce in excess of 120 gallons per minute (gpm) at an approximate depth of 200'. The Department of Natural Resources and Conservation (DNRC) does not anticipate the acquisition of additional water rights to be problematic, and the cost of an additional well, approximately $150,000, is favorable. For these reasons, this is the selected alternative.

4. DEVELOP A SURFACE WATER SOURCE FROM THE ADJACENT FLATHEAD RIVER-This alternative would provide additional supply to the community with water from the Flathead River. This alternative would entail extensive permitting and the construction and operation of a new and expensive water treatment plant. Additionally, it would be a long and difficult process to obtain a surface water right from this river, if even possible. For these reasons, this alternative was eliminated from further consideration.

5. NO ACTION-This alternative would make no changes to the existing supply system. The consequences would be the continuation of existing supply shortages and low pressures during periods of high demand unless storage was provided for the system. For these reasons, this alternative was eliminated from further consideration.

B. WATER STORAGE ALTERNATIVES

Three alternatives addressing the District's water storage needs included:

1. The construction of an elevated storage reservoir;
2. The construction of an on-grade storage reservoir and boost pump facility; and
3. No action.

1. THE CONSTRUCTION OF AN ELEVATED STORAGE RESERVOIR-This alternative would alleviate peak flow and pressure problems associated with the District's water system without the drilling of a new supply well. To obtain the necessary system pressure would require construction of the storage reservoir on elevated ground or the construction of an elevated tower reservoir. The nearest suitable location for an on-grade reservoir is approximately three (3) miles away, and the construction of a tower reservoir would cost approximately $500,000. For these reasons, the construction of an elevated storage reservoir that would facilitate gravity flows to the community's distribution system has been eliminated as an alternative.

2. THE CONSTRUCTION OF AN ON-GRADE STORAGE RESERVOIR AND BOOST PUMP FACILITY-This alternative would consist of the construction of an on-grade water storage reservoir in or near the subdivision. A boost pump would be necessary to provide the necessary system pressure, since there would be no elevation head on the system. The estimated cost for this alternative is approximately $285,000, nearly twice the cost of an additional well. For this reason, this alternative is not being considered.

3. NO ACTION-This action would make no changes to the existing storage capabilities of the system. No storage facilities exist, and the system does not meet flow and pressure demands. Because these deficiencies must be corrected, and because of cost considerations, this is the preferred storage alternative to be implemented along with the construction of an additional water supply well.

C. WATER DISTRIBUTION SYSTEM ALTERNATIVES

Two alternatives addressing the District's water distribution needs included:

1. No action; and
2. Replace the existing distribution system.

1. NO ACTION-This alternative was not seriously considered beyond the initial acreening stage. The existing distribution is undersized, resulting in inadequate pressures and flows

during periods of high system demand. Additionally, the existing system is not looped, resulting in water stagnation in dead-end sections of the system; the potential for backflow and resulting contamination; non-uniform system pressures; and unstable system pressures.

2. REPLACE THE EXISTING DISTRIBUTION SYSTEM-This is the preferred alternative, and includes the replacement of the existing system with new 6" PVC water lines. The new system would include looping, flushing hydrants, and isolation valves to alleviate the potential for stagnation and contamination caused by low pressure and resulting backflows.

D. COST COMPARISON - PRESENT WORTH ANALYSES

The present worth analysis is a method of comparing alternatives in present day dollars and may be used to determine the most cost-effective alternative. Capital cost is first adjusted by subtracting the present worth of the salvage value at the end of 20 years. The present worth value of the annual operating and maintenance costs is calculated assuming a 6.0% interest rate over the 20-year planning period. The present worth of the annual operation and maintenance costs is then added to the adjusted capital cost to provide the total present worth cost of each alternative. These values are compared to determine the most cost-effective alternative.

1. Table 1 provides a summary of the present worth analysis of the only water supply alternative that was considered following the alternative screening process. Other alternatives discussed in Section III. A. of this report were eliminated from further consideration for reasons discussed in that section.

Table 1. Present Worth Analysis for Water Supply Alternatives

	Water Supply Alternatives				
	Alt. 1 Connect to Evergreen	**Alt. 2** Replace Pumps in Existing Two (2) Wells	**Alt. 3** **Drill Additional Well**	**Alt. 4** Develop Surface Water Source from Flathead River	**Alt. 5** No Action
Capital Cost (2006)			$148,500		
20-Year Salvage Value			$62,000		
Present Worth of Salvage Value (6.0%)			$19,000		
Annual O&M Costs			$10,000		
Present Worth of Annual O&M Costs (6.0%)			$115,000		
Total Present Worth Cost			$244,500		

2. Table 2 provides a summary of the present worth analysis for water storage alternatives.

Table 2. Present Worth Analysis for Water Storage Alternatives

	Water Storage Alternatives				
	Alt. 1 Construct an Elevated Storage Reservoir	**Alt. 2** Construct a Non-Elevated (On-grade) Storage Reservoir with Boost Pump Facility	**Alt. 3** No Action		
Capital Cost (2006)	$458,325	$284,850	$0		
20-Year Salvage Value	$178,000	$98,000	$0		
Present Worth of Salvage Value (6.0%)	$56,000	$31,000	$0		
Annual O&M Costs	$4,300	$8,850	$0		
Present Worth of Annual O&M Costs (6.0%)	$49,000	$102,000	$0		
Total Present Worth Cost	$451,325	$355,850	$0		

Based on the present worth analysis for water storage alternatives vs. the drilling of an additional well to alleviate system demand deficiencies (See Table 1. above), it is apparent that the drilling of an additional well is the preferred action with a present worth of $244,500.

3. Table 3 provides a cost summary of the cost to replace the existing distribution system. This is the only alternative considered, since the no-action alternative will not correct the water pressure and flow deficiencies that currently exist.

Table 3. Cost Summary for Water Distribution System Replacement

	Water Distribution System Alternatives				
	Alt. 1 No action	**Alt. 2** Replace the Existing Distribution System			
Construction Cost (2006)		$150,000			
Non-Construction Costs including Project Administration, Engineering Costs, and 10% Contingency		$50,000			
Total Cost		$200,000			

E.. TOTAL ESTIMATED COSTS

The total estimated cost of the project is $389,500, broken down as follows:

Administrative and Financial Costs:	$ 31,000
Land Acquisition Costs:	$ 0
Engineering Costs, including Inspection	$ 53,400
Construction Costs	$ 283,600
Construction Contingency	$ 21,500
Total Estimated Cost	$ 389,500

F. USER COSTS AND AFFORDABILITY

The current average monthly residential water rate within the District is $52.00. This project will require a loan in the approximate amount of $98,000, resulting in a projected average rate of $80.40 per month.

IV. AFFECTED ENVIRONMENT

A. PLANNING AREA DESCRIPTION

The Panoramic Mountain River Heights Water District is located 3.6 miles east of Kalispell in Section 2, Township 29 North, Range 21 West. The community, comprised of two (2) subdivisions, is immediately east of the Flathead River along Highway 35 and includes 23 residential lots and one commercial lot. With the exception of one vacant residential lot, the development is complete.

B. PROPOSED PROJECT SUMMARY

The proposed project includes upgrades to an existing system that was constructed in the early 1970's. The source of water for the system is groundwater provided by two wells; there is no water storage associated with the existing system.

Included in this proposed project are the drilling and development of an additional, approximately 200' deep, well that will produce an estimated 120 gallons per minute or more; a new pump and controls in conjunction with the new well; the replacement of approximately 2,200 lineal feet of undersized PVC distribution piping with new 6" PVC pipe; and the installation of water meters at all service connections. Plans are currently being reviewed by the Montana Department of Environmental Quality for compliance with Circular DEQ 1, and construction is scheduled for the summer of 2008.

C. POPULATION PROJECTIONS AND PROJECT DESIGN CRITERIA

Population projections for the 20-year design period indicate that little growth is anticipated for the project area because all available lots, with the exception of one, have been developed. A 10% unanticipated growth factor has been incorporated into the design to allow for a reasonable amount of growth.

Design Year:	2026
Number of Hookups	24
Projected Population	89
Average Demand Per Capita	336 gallons per capita per day
Design Average Daily Demand	29,904 gallons per day
Daily Peaking Factor	4
Design Peak Daily Demand	119,616 gallons per day
Hourly Peaking Factor	2
Peak Hourly Demand	166 gallons per minute

D. NATURAL FEATURES AND LAND USE WITHIN THE PLANNING AREA

The immediate land use within the District is residential with one commercial establishment. The community is bordered on the west by the Flathead River and the City of Kalispell and on the north, west, and south by scattered agricultural land and low-density residential development.

V. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Housing and Commercial Development – Land use within the district boundaries primarily includes residential homes. Because all but one of the lots within the District have been developed, it is not anticipated that this project will have a significant impact on existing or future development.

2. Future Land Use – Land use within the District boundaries is residential. Because all of the lots within the District have been developed, land use within the planning area is not expected to change significantly in the future. No adverse impacts to land use are expected from the proposed project.

3. Floodplains and Wetlands –No significant impacts are anticipated.

4. Cultural Resources –No significant impacts are anticipated. In the event that cultural artifacts are encountered during construction, the Montana State Historic Preservation Office will be notified.

5. Fish and Wildlife – The U.S. Fish and Wildlife Service and the Montana Department of Fish, Wildlife, and Parks were both contacted to identify any unique resources within the project area. No long-term adverse impacts are anticipated..

6. Water Quality – No long-term adverse impacts are anticipated.

7. Air Quality - Short-term negative impacts on the air quality will occur from heavy equipment, dust, and exhaust fumes during project construction. Proper construction practices and dust abatement measures will be implemented during construction to control dust, thus minimizing this problem.

8. Public Health – The proposed project is not expected to have adverse impacts on public health, and should, instead, enhance public health by providing a safe and reliable water supply for the community.

9. Energy – Because of improvements in the efficiency of the new replacement well that is being drilled as part of this project and the installation of power conversion systems for the pumps in both supply wells, long-term power savings are anticipated.

10. Noise - Short-term impacts from increased noise levels may occur during construction of the proposed project improvements. No long-term adverse impacts are anticipated.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction impacts including noise, dust, and traffic disruption will occur but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VI. PUBLIC PARTICIPATION

A formally advertised public hearing was held to inform the public of the proposed project and solicit comments on April 20, 2006. There is no known opposition to the project, and there is documented support for the project from homeowners within the community.

VII. REFERENCE DOCUMENTS

The following documents were utilized in the environmental review of this project and are considered to be part of the project file:

A. Preliminary Engineering Report-Water System Improvements; April 2006; prepared by Great West Engineering, Helena, Montana.

B. Draft Contract Documents & Specifications; December 2007; prepared by Great West Engineering, Helena, Montana.
C. Draft Construction Drawings for the Panoramic Mountain River Heights County Water District Water System Upgrade; prepared by Great West Engineering, Helena, Montana.

VIII. AGENCIES CONSULTED

The following agencies were contacted regarding the proposed construction of this project:

A. The Montana Natural Heritage Program
B. The Natural Resource Conservation Service
C. The Montana Department of Environmental Quality
D. The Montana Historical Society's Historic Preservation Office
E. The Montana Department of Natural Resources and Conservation
F. The Montana Department of Fish, Wildlife, and Parks
G. The U.S. Fish and Wildlife Service
H. The U.S. Army Corps of Engineers

No adverse comments were received.

IX. APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

No additional permits will be required from the Drinking Water State Revolving Fund Program of the Department of Environmental Quality for this project after review and approval of the submitted plans and specifications. However, a stormwater general discharge permit for construction activities must be obtained from the department's Water Protection Bureau prior to the beginning of construction. A construction dewatering permit from the department's Water Protection Bureau may also be required if groundwater is encountered during construction of the new facilities and dewatering activities are necessary.

X. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation: Through this environmental assessment, the department has made a preliminary determination that none of the adverse impacts of the proposed Panoramic Mountain River Heights County Water District water system improvements project are significant. Therefore, an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609 and 17.4.610.

The environmental assessment is the appropriate level of analysis because none of the adverse effects of the impacts are expected to be significant.

EA prepared by:

Mark A. Smith, P.E.	Date

EA reviewed by:

Todd Teegarden, P.E.	Date